

REMARKS

Prior to this Response, claims 1-55 were pending in this application. By the present communication, the Abstract of the Specification has been amended to reduce the number of words therein. In addition, no claims have been added or cancelled and claims 1, 2, 14-16, 24, 25, 31, and 43 have been amended to define Applicants' invention with greater particularity. The amendments add no new matter, being fully supported by the Specification and claims. Accordingly, claims 1-55 are presently pending.

The Objection to the Specification

The disclosure is objected to for allegedly containing more than 150 words. To overcome the objection, the Abstract has been amended to reduce the number of words to less than 150. In view of the amendments to the Abstract, Applicant respectfully requests withdrawal of the objection to the Specification.

The Rejection Under 35 U.S.C. § 112, Second Paragraph

Applicant respectfully traverses the rejection of claims 1-55 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. With regard to claims 1-55, the Examiner asserts that the phrase "genome is known" is unclear because it allegedly cannot be determined whether the phrase means that the "entire nucleotide sequence, a restriction map of the genome or simply an awareness of a part of genetic organization of the genome" is known (Office Action, page 3). To overcome the rejection, claims 1, 25 and 43 have been amended to replace the phrase "genome is known" with the phrase "genomic sequence is known", thus clarifying that the genome has been completely sequenced.

With regard to claims 1-13 and 17-55, the Examiner alleges that the metes and bounds of the term "homologous" are unclear because the term is "relative." In the same vein, claims 2, 25 and 43 are rejected for lack of clarity regarding how a gene can be "obtained" by homology or by sequence comparison. To overcome the first rejection, claim 1 has been amended to replace "homologous" with the phrase "with about 80% to

100% sequence identity to a known segment of chromosomal DNA in the host cell.” To overcome both rejections, claim 2 has been amended to replace “obtaining” with “obtaining the identity of” and to replace to the term “homology” with the phrase “obtaining the identity of the essential chromosomal gene in the test organism by locating a gene in the known segment of DNA of the test organism that corresponds to a gene in the haploid test cell that contains the transposon-mutagenized DNA.”

In addition, the Examiner asserts that use of the phrase “a gene in the known segment of DNA” in claims 2, 14-16 and 25 is ambiguous because the phrase could refer either to a segment of known chromosomal DNA or to a segment of known DNA of the haploid test organisms or a pathogenic bacterium, which are both recited. To clarify the meaning of the phrases at issue, claims 2, 14-16 and 25 have been amended to add in each instance an identifier phrase indicating the provenance of the “segment of known DNA”. For example, claim 2 has been amended to recite: “locating a gene in the known segment of DNA *of the test organism* that corresponds to a gene *in the BAC* that contains the transposon-mutagenized DNA.”

Similarly, for clarity claim 25 has been amended to recite: “locating the essential gene in the known segment of DNA *of the pathogenic bacterium* by identifying, by sequence comparison with the known segment of DNA *of the pathogenic bacterium*, a gene in the known segment of DNA *of the pathogenic bacterium in the test cell* that has been disrupted by the transposon.”

In claim 43, the term “obtaining the identity of the essential chromosomal gene by homology with” has been amended to read: “obtaining the identity of the essential chromosomal gene by identifying a gene that has been disrupted by the transposon by sequence comparison between the known segment of chromosomal DNA *of the haploid test cell of the host cell* and the known segment of DNA *of the haploid test organism* inserted into the BAC.”

The phrase at issue in claim 43 has been clarified by amending the final element to read: “obtaining the identity of the essential chromosomal gene by determining which gene in the known segment of DNA of the haploid test cell inserted into the BAC was disrupted by the transposon.

Applicant has interpreted the Examiner's remark regarding the phrase "insertion into the host cell" in claim 24 as intended to assert that there is insufficient antecedent basis for the phrase in claim 1 (a word processing error appears to have garbled the Examiner's intent). Based on this interpretation, the phrase at issue has been amended to read: "insertion into the merodiploid test cell" Antecedent basis for the phrase "the merodiploid test cell in claim 24 is found in claims 1 and 23.

With regard to the use of the term "select[s]" in claim 25, the Examiner asserts that "it is unclear how a genome can 'select' a compound." (Office Action, page 4). This comment is puzzling since in all method claims, as in Applicant's claim 25, it is understood that the practitioner is one who carries out the use of the claim. However, to render the issue moot, "select" has been deleted from the preamble to claim 25.

Further with regard to claim 25, the Examiner asserts that the metes and bounds of the essential gene in the known segment of DNA of the pathogenic bacterium is unknown because its relation to the gene identified by sequence comparison is unclear. To clarify this issue, claim 25 has been amended to recite: "locating the essential gene in the known segment of DNA of the pathogenic bacterium by identifying a gene in the known segment of DNA of the pathogenic bacterium in the diploid test cell that has been disrupted by the transposon." Applicant submits that the amendment clarifies that according to the invention method the identity of the essential gene is determined simply by locating the transposon in the diploid test cell that has not survived the test conditions (because the BAC has inserted itself in an essential gene) and identifying a gene in the sequence of bacterial DNA bracketing the transposon. Due to the highly conserved nature of haploid cells, insertion of the transposon anywhere but in an essential gene will allow the haploid test cell to survive the test conditions.

Accordingly, Applicant submits that in view of the above amendments and remarks, the claims now meet all requirements under 35 U.S.C. § 112, second paragraph and reconsideration and withdrawal of the rejection are respectfully requested.

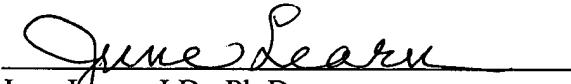
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In view of the above amendments and remarks, Applicants submit that the objection to the Abstract and the rejection of claims are overcome. Accordingly, Applicants request favorable action on all pending claims. If the Examiner would like to discuss any of the issues raised in the Office Action, the Examiner is encouraged to call the undersigned so that a prompt disposition of this application can be achieved.

Respectfully submitted,

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June Learn, J.D., Ph.D.
Attorney for Applicant
Registration No.: 31,238
Telephone: (858) 677-1416
Facsimile: (858) 677-1401

USPTO CUSTOMER NUMBER 28213
GRAY CARY WARE & FREIDENRICH LLP
4365 Executive Drive, Suite 1100
San Diego, California 92121-2133